

LAKE: GRAND FALLS FLOWAGE (VLMP SCW )  
TOWN: INDIAN TWP  
COUNTY: WASHINGTON

MIDAS: 7437  
TRUE BASIN: 2  
SAMPLE STATION: 1

#### WHOLE LAKE INFORMATION

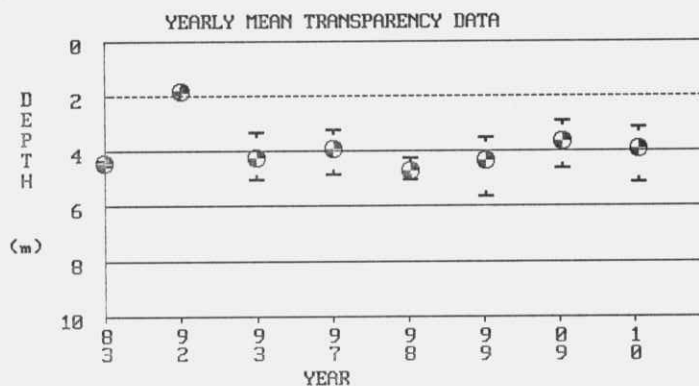
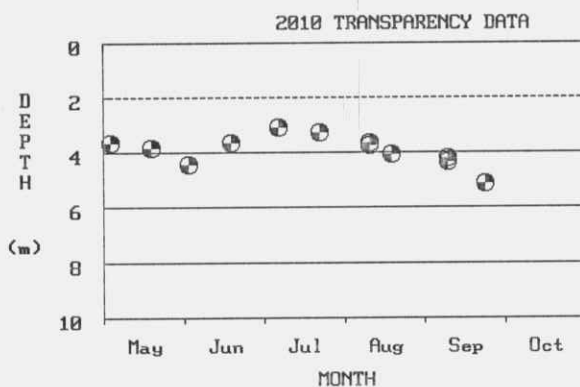
MAX. DEPTH: Undetermined  
MEAN DEPTH: Undetermined  
DELORME ATLAS #: 36  
USGS QUAD: PRINCETON  
IFW REGION C: Grand Lake Stream (Machias)  
IFW FISH. MANAGMENT: Warmwater

#### TRUE BASIN CHARACTERISTICS

SURFACE AREA: 2171.0 ha. (5364.5 a.)  
FLUSHING RATE: 15.32 flushes/yr.  
VOLUME: 65100000.0 cu. m. (52809 ac.-ft.)  
DIRECT DRAINAGE AREA: 437.11 sq. km. (168.77 sq. mi.)

PLEASE NOTE THE FOLLOWING: The SAMPLE STATION # refers to the location sampled. The term TRUE BASIN is used to define areas within a lake that are separated by shallow reefs or shoals and therefore function as separate lakes. There are approximately 50 lakes in the state that have more than 1 True Basin. True Basin Characteristics are now being included in the first section of these reports to enable users of the Phosphorous Loading Methodology to better evaluate the data. If there is no data for a particular True Basin, True Basin Characteristics must be obtained from the DEP. GRAND FALLS FLOWAGE has 1 True Basin(s).

#### SECCHI DISK TRANSPARENCY GRAPHS:



Note: 2010 graphs may indicate multiple readings taken on a given day.

#### SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

[\* indicates that Secchi disk was visible at bottom of lake (or one reading used in calculation was visible)].

YEAR	MEAN	MEAN	MEAN	MEAN	TOTAL PHOS. MEANS (ppb)				SECCHI DISK (m.)				CHLOROPHYLL A(ppb)			TROPHIC STATE INDICES			
	COLOR	pH	ALK	COND.	EPI	SURF	BOT.	PRO.	MIN.	MEAN	MAX.	N	MIN.	MEAN	MAX.	EPI PHOS			
	(SPU)		(mg/l)	(uS												C	G	SEC	CHL
				/cm)	CORE	GRAB	GRAB	GRAB											
1983	-	-	-	-	-	-	-	-	4.3	4.4	4.5	2	-	-	-	-	-	-	-
1992	-	-	-	-	15	-	-	-	1.8*	1.8*	1.8*	1	-	-	-	-	-	-	-
1993	-	6.74	-	29	9	-	-	-	3.3	4.2	5.0	5	3.5	3.5	3.5	-	-	-	-
1997	-	-	-	-	-	-	-	-	3.2	3.9	4.8	5	-	-	-	-	-	-	-
1998	-	6.94	5.5	19	8	-	-	-	4.2	4.7	5.0	5	2.9	3.0	3.0	-	-	-	-
1999	-	-	-	-	-	-	-	-	3.5	4.3	5.6	5	-	-	-	-	-	-	-
2009	57	6.05	7.7	22	13	-	-	-	2.9	3.6	4.6	5	1.7	2.9	4.2	-	-	-	-
2010	38	5.92	7.3	25	11	-	-	-	3.1	3.9	5.1	5	1.9	3.2	5.0	-	-	-	41
SUMMARY:	48	6.23	6.8	24	11	-	-	-	1.8*	3.9*	5.6	8	1.7	3.1	5.0	-	-	-	41

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THE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

[illegible]

## **WATER QUALITY SUMMARY**

### **GRAND FALLS FLOWAGE, Indian Township**

Midas: 7437, Basin: Basin # 2

The Maine Department of Environmental Protection (ME-DEP) and the Volunteer Lake Monitoring Program (VLMP) have collaborated in the collection of lake data to evaluate present water quality, track algae blooms, and determine water quality trends. This dataset does not include bacteria, mercury, or nutrients other than phosphorus.

Water quality monitoring data for Grand Falls Flowage have been collected since 1983. During this period, three years of basic chemical information were collected, in addition to Secchi Disk Transparencies (SDT). In summary, the water quality of Grand Falls Flowage appears to be below average, based on measures of SDT, total phosphorus (TP), and Chlorophyll-a (Chla). The potential for nuisance algae blooms on Grand Falls Flowage is moderate-high.

Water Quality Measures: The Flowage has an average SDT of 3.9m (12.8ft ). The range of water column TP for Grand Falls Flowage is 8-15 parts per billion (ppb) with an average of 11 ppb, while Chla ranges from 2.9-3.5 ppb with an average of 3.2 ppb. There are no color data for Grand Falls, therefore it is unclear to what extent the below-average transparency is due to natural color, although the TP is fairly high. Recent dissolved oxygen (DO) profiles show little DO depletion in deeper areas of the flowage. The potential for TP to leave the bottom sediments and become available to algae in the water column (internal loading) is low.

See ME-DEP Explanation of Lake Water Quality Monitoring Report for measured variable explanations. Additional lake information can be found on the Internet at <http://www.lakesofmaine.org/> and/or <http://www.maine.gov/dep/blwq/lake.htm>, or telephone the ME-DEP at 207-287-3901 or the VLMP at 207-783-7733.

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